PATENT ABSTRACTS OF JAPAN

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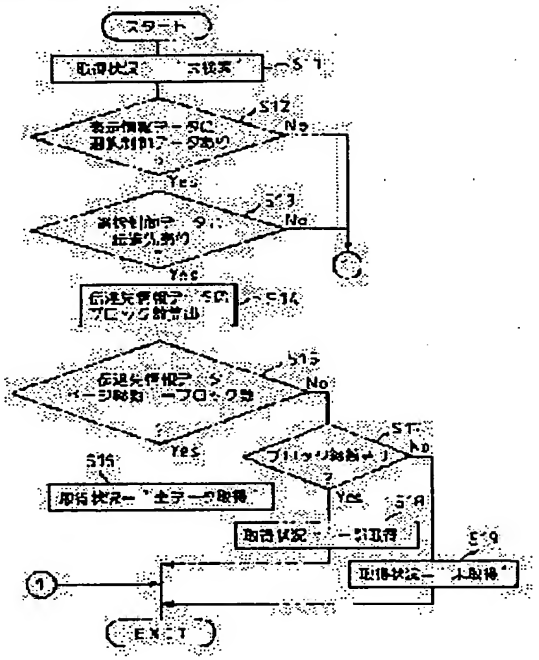
(71)Applicant : FUJITSU TEN LTD
(72)Inventor : KODERA HIROYUKI
TOMIYOSHI SHINSUKE

(54) INFORMATION DATA DISPLAY SYSTEM IN MULTIPLE BROADCASTING SYSTEM

(57)Abstract:
PROBLEM TO BE SOLVED: To display the acquisition situation of destination information data by providing a means which retrieves the acquisition situation of the information data of the destination and notices the acquisition situation at a display part when the destination of information data is indicated.
SOLUTION: Whether or not 'selection control data' are present in displayed information data is judged (S12). In the case of Yes, whether or not the destination of transmission is present in the selection control data is judged (S13). When the destination of transmission is present, the total number of pages of a program header is read from the information data of the destination of transmission, and the presence or absence of page information stored in an actual data part and the number of stored blocks are read from the page information (S14). Whether or not the total number of pages is equal to the number of blocks is judged, and when they are equal, sinse all the information data of the destination of transmission have been stored in a data base memory, 'all data acquisition' is set in the register 'acquisition situation'.



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CLAIMS

[Claim(s)]
[Claim 1] The contents of information sort out a lot of information data received in the multiplex-broadcasting system, and they are memorized in memory. In the information data display system in which the information data which display some information data memorized in said memory on an indicator, and are related in this display are shown as a destination The information data display system in the multiplex-broadcasting system characterized by providing a means to search the acquisition situation of the information data displayed as said destination, and a means to put up the searched acquisition situation concerned for said display.
[Claim 2] The retrieval means of said acquisition situation is an information data display system in the multiplex-broadcasting system according to claim 1 which distinguishes an acquisition situation gradually.
[Claim 3] The information data display system in the multiplex-broadcasting system according to claim 1 which a means to put up said acquisition situation identifies an acquisition situation by the color, and puts up.

[Translation done.]

DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Field of the Invention] This invention relates to the display system of information data [in / a DARC method FM multiplex broadcast] about the system which displays with a drop some information data which sorted out and memorized a lot of information data received in the multiplex-broadcasting system according to the contents of information, and were memorized in memory.
[0002]
[Description of the Prior Art] Conventionally, when displaying a certain information data on an indicator in the system which displays a lot of received information data like a DARC method FM multiplex broadcast on an indicator, displaying the information data of relation as a destination is performed. There is a menu screen as this one example. A menu screen displays the title of two or more information data associated as one group on one screen. By specifying one of the titles displayed on the menu screen, an operator can fly to desired information data and can display the information data on a drop. Even if there are a lot of information data by this, desired information data can be approached efficiently.
[0003] Conventionally, by format of that information data, a color, magnitude, and a form were specified and the information data displayed in this menu screen showed information data faithfully according to that format.
[0004]
[Problem(s) to be Solved by the Invention] In the above-mentioned broadcast system, since it is necessary to perform that the information data acquired in a receiving side are abundant, the error correction of the acquired information data, etc., before acquiring a certain information data or all information data, regardless of the acquisition rate of information data, it will take time amount. For this reason, by the time it acquires a certain information data or all information data from reception initiation, the condition of "the waiting for acquisition" will surely exist.
[0005] In such a situation, two information data A and B were injured with relation, and when it was going to transmit to the display of B from the condition that the information data A were displayed, the acquisition situation of the information data of B was not able to be known in the former. for this reason — when transmitting to the information data of B from the display of the information data of A, the information data of B are in the condition of the waiting for acquisition — a drop — "— it is [ ] under reception — please wait for a while — " — ** — an indication to say is given, and it must wait until all the information data of a destination are acquired. When this information data is associated continuously, the waiting for acquisition becomes still longer.
[0006] This invention aims at offering the display system which can display the acquisition situation of destination information data in the multiplex-broadcasting system which is made in view of the above-mentioned problem, sorts out a lot of received information data according to the contents of information, memorizes, and displays some memorized information data with an indicator.
[0007]
[Means for Solving the Problem] This invention is made in order to attain the above-mentioned purpose. In the information data display approach in the multiplex-broadcasting system of this invention, some information data which sorted out a lot of information data received in the multiplex-broadcasting system according to the contents of information, memorized them in memory, and memorized them in memory are displayed on a drop. When the destination of the information data related in this display is shown, the acquisition situation of the information data of that destination is searched, and an acquisition situation is put up for a display.
[0008] It can decide whether then, see the acquisition situation of the information data and transmit by this, when it is going to transmit to the transfer place information data of the displayed request while

to the destination, the display of the information data will be obtained immediately. Moreover, if it does not acquire, what it waits or is transmitted to the information data can be canceled, and can be switched to transfer to other information data until it is acquired.

[0009] Moreover, in case an acquisition situation is searched, an acquisition situation can be distinguished gradually and an acquisition situation can be displayed gradually. The latency time until it approaches desired information data will be known by this, and it can decide easily whether wait to transmit to the information data, or transmit to other information data. Furthermore, the display of an acquisition situation can be identified by the color according to an acquisition situation, and a drop can be notified.

[0010]

[Embodiment of the Invention] The example which applied this invention to the DARC method FM multiplex broadcast is explained. Drawing 1 shows the example of a configuration of the information data in a DARC method FM multiplex broadcast. In drawing, it is square, and what was expressed expresses the information data for 1 page, and is dealt with as one lump's information data. A program 1 is a main menu which shows the menu of all broadcasts, and consists of 1-page information data. Moreover, this program 1 is related with the program 2 combined by the drawing top line, a program 5, and a program 6. A program 2 is a program menu in which it is related with a program 3 and a program 4, and the title of a program 3 and a program 4 is shown collectively. This also consists of 1-page information data.

[0011] A program 3 - a program 6 are information data which consist of two or more pages, respectively, a program 3 and a program 4 are related with a program 2, and the program 5 and the program 6 are related with the program 1. These information data transmit all information data serially according to a certain fixed regulation, when transmitted in a broadcast system. According to this fixed regulation, regardless of the configuration of the information data shown in drawing 1 , each page is transmitted in scattering sequence.

[0012] The hard configuration of the receiver of a multiplex-broadcasting system is shown in drawing 2 and drawing 3 . A receiver consists of a receive section 10, the database memory 20, a switch control unit 30, a display 40, and CPU50. The packet data serially sent one by one from a receive section 10 are analyzed for every group in the packet bond part 51, and packet association, CRC count, and a data group draw are performed. Status information is stored in memory 52 after these processings, in a data base manager 53, processing explained below is carried out and information data are stored in the database memory 20.

[0013] The configuration of the database memory 20 is shown in drawing 4 . Information data are divided and stored in a managed table and the live-data section. A program header and page information are stored in a managed table in order for every program. As a program header is shown in the right-hand side of drawing, good [of refer to the data], a failure, the page total of the program concerned, and the offer time of day (the time and part) of the program concerned are stored. Although it is information data (data group data) by which a group division is carried out and was stored in the program concerned at the live-data section, the address is stored in page information as block No. This block No is set to FFFF16 when there is no live-data section, and in a certain case, the corresponding address value is shown by in 0-39910.

[0014] The live data of the information data are stored in the live-data section. The contents of data and selection-control data are contained in these live data. Moreover, the address with which live data were stored is recorded on the above-mentioned managed table as page information. As already explained, it takes time amount that all of that the information data acquired in a receiving side in a multiplex-broadcasting system are abundant and the information data shown in drawing 4 regardless of the acquisition rate of information data since the error correction of the acquired information data etc. needed to be performed are stored in the database memory 20.

[0015] If actuation is carried out to drawing 2 and drawing 3 by return and the switch control unit 30, the information data stored in the database memory 20 will be read one by one, it will let the indicative-data conversion control section 57 pass, and an indication will be given to a display 40 by the selection-control section 54, the page control section 55, and the data-access-management section 56. In addition, since these processings are the same as that of the conventional technique, explanation here is omitted.

[0016] The example of the menu screen displayed on drawing 5 by the display 40 is shown. (a) is Kiss-FM. The example of a screen display and (b) are the examples of a screen display of NHK-FM. In each menu screen, the title of the information data of a destination (transfer place) is displayed. In this example, the data acquisition situation of the information data of a destination is identified in the background color of the title of information data in this menu screen. For example, Kiss-FM of (a) It sets, and "1. news" does not have a receiving page and a background color is expressed with red. Some pages are acquisition ending and, as for "2. road traffic information", a background color is expressed with yellow. Moreover, in NHK-FM of (b), 4. 3. "1. news", "earthquake information", and "tsunami information" do not have a receiving page, and a background color is expressed with red. Some pages are acquisition ending and, as for "2. weather intelligence", a background color is expressed with yellow. All pages are acquired, and "5. the Olympic

Games information of a background color" is blue, and is expressed.
[0017] The processing for displaying the acquisition situation shown in drawing 5 is explained using the flow chart of drawing 6 - drawing 8 . These processings are performed by drawing 2 and the indicative-data conversion control section 57 of drawing 3 . The flow chart of drawing 6 shows the processing which searches the acquisition situation of each information data.
[0018] `Un-searching' is set to a register `an acquisition situation' at step S11. It is judged whether `selection-control data' are in the information data currently displayed at step S12. The live-data section (refer to drawing 4) of the information data with which this is displayed is investigated, and it is judged whether the information data is a menu. Here, if it is Yes, it will be judged at step S13 whether a transfer place is in selection-control data. Here, if there is a transfer place, it will progress to step S14. If it is No at step S12 and step S13, processing will be ended without performing processing of acquisition situation retrieval. In this case, an acquisition situation is still `un-searching'.
[0019] At step S14, about the information data of a transfer place, the page total (refer to drawing 4) of a program header is read, and the block count stored with the existence of the page information stored in the live-data section from page information (refer to drawing 4) is read. When there is no page, FFFF16 is read, and when there is a page, the block count is read in 0-39910.
[0020] At step S15, it is judged whether a page total and the block count are equal. It is here, and if equal, since all the information data of a transfer place are stored in the database memory 20, it will be step S16 and `all data acquisition' will be set to a register `an acquisition situation'. When not equal, it progresses to step S17. At step S17, it is judged whether the block count investigated at step S14 is 0. if it is Yes, since, as for the information data of a transfer place, only the part is stored in the database memory 20 here — step S18 — it is — a register `an acquisition situation' — ` — a part — acquisition ' is set. If it is No, it will progress to step S19 and `un-acquiring' will be set to a register `an acquisition situation'.
[0021] S14-S19 are repeated about all the information data of a transfer place among the above steps. Drawing 7 and drawing 8 are flow charts which show the processing which changes the display of a screen according to the acquisition situation of each searched transfer place. In order to make an understanding of the contents of processing of a flow chart easy here, it explains referring to the example of a configuration of the display information data of drawing 9 . This example shows the display information data of Kiss-FM shown in drawing 5 (a). In addition, in drawing, APB means retreat and SP means a tooth space (null).
[0022] It is confirmed the register `an acquisition situation' `has been searched' with step S31. Here, if it is No (un-searching), at step S32, a background color will be set to "white" and will end processing. If it is Yes (finishing [retrieval]), it will progress to step S33. The format which becomes `figure' `APB' ` figure ' from these initial data of display information data is searched with step S33, and the 1st `figure' data is set as a head pointer at step S34 (a of drawing 9).
[0023] At step S35, the acquisition situation of the transfer place corresponding to the above `a figure' is called. At step S36, it is confirmed whether acquisition situations are `all data acquisition'. Here, if it is Yes, a background color will be set as `blue' at step S37. if it is No — step S38 — an acquisition situation — ` — it is confirmed whether be acquisition ' a part. Here, if it is Yes, a background color will be set as `yellow' at step S39, and if it is No, a background color will be set as `red' at step S40.
[0024] Subsequently, the format which becomes `figure' `APB' ` figure ' from the location of the 2nd figure as follows is searched with step S41. At step S42, the data (c of drawing 9 ) in front of the 1st `figure' (d of drawing 9) after retrieval are set as the last pointer. At step S43, a head pointer is set as a termination pointer. Thereby, a termination pointer is set to a of drawing 9 .
[0025] At step S44, information data are analyzed from a head pointer (a of drawing 9). At step S45, it confirms whether information data are `SP' or `APB' as a result of analysis, if it is No, a retrieval location will be set as a termination pointer at step S46, and it will progress to step S47, and if it is Yes, it will progress to the direct step S47. At step S47, a retrieval location is set as a degree and it is checked for a retrieval location the last pointer (c of drawing 9) by step S48. If it is No, the above-mentioned processing will be repeated even to return and the last pointer to step S45. When it comes to Yes, it progresses to step S49. In this condition, the termination pointer is b of drawing 9 .
[0026] At step S49, the background color of the information data from a head pointer location to a termination pointer is set as the background color set up by step S37-40. It is confirmed whether all information data were searched with step S50. If it is No here, at step S51, it will be set as a head pointer in the next location (d of drawing 9) of the last pointer, and will return to step S35.
[0027] Henceforth, same processing is performed and a setup of the background color about `road traffic information' is performed. Thereby, in the example of drawing 9 , a head pointer and f are set to the last pointer, and e is set to a termination pointer for d. After retrieval is completed about all information data, it escapes from Yes of step S50 and processing is ended. By processing explained above as shown in

drawing 5 (a), the background color of the information data of a transfer place is decided, and an operator gets to know the acquisition situation of a transfer place in this background color, and makes it reference of selection of a transfer place. For example, if transfer places are all data acquisition ending, it turns out that it can fly to a transfer place immediately. If a part or all is not acquired, it can judge whether it waits until it acquires completely, or it transmits to other information data.

[0028] Although the acquisition situation of a transfer place is identified in a background color and displayed in the example explained above, the other methods of presentation are also possible. for example, all `acquisition'`s — a part — acquisition ' `un-acquiring' — as — it can display in written form or can express as other notations.

[Translation done.]

* NOTICES *

1.This document has been translated by computer. So the translation may not reflect the original precisely.

2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

TECHNICAL FIELD

[Field of the Invention] This invention relates to the display system of information data [in / a DARC method FM multiplex broadcast] about the system which displays with a drop some information data which sorted out and memorized a lot of information data received in the multiplex-broadcasting system according to the contents of information, and were memorized in memory.

[Translation done.]

PRIOR ART

[Description of the Prior Art] Conventionally, when displaying a certain information data on an indicator in the system which displays a lot of received information data like a DARC method FM multiplex broadcast on an indicator, displaying the information data of relation as a destination is performed. There is a menu screen as this one example. A menu screen displays the title of two or more information data associated as one group on one screen. By specifying one of the titles displayed on the menu screen, an operator can fly to desired information data and can display the information data on a drop. Even if there are a lot of information data by this, desired information data can be approached efficiently.
[0003] Conventionally, by format of that information data, a color, magnitude, and a form were specified and the information data displayed in this menu screen showed information data faithfully according to that format.

[Translation done.]

TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention] In the above-mentioned broadcast system, since it is necessary to perform that the information data acquired in a receiving side are abundant, the error correction of the acquired information data, etc., before acquiring a certain information data or all information data, regardless of the acquisition rate of information data, it will take time amount. For this reason, by the time it acquires a certain information data or all information data from reception initiation, the condition of "the waiting for acquisition" will surely exist.
[0005] In such a situation, two information data A and B were injured with relation, and when it was going to transmit to the display of B from the condition that the information data A were displayed, the acquisition situation of the information data of B was not able to be known in the former. for this reason — when transmitting to the information data of B from the display of the information data of A, the information data of B are in the condition of the waiting for acquisition — a drop — "— it is [ ] under reception — please wait for a while — " — ** — an indication to say is given, and it must wait until all the information data of a destination are acquired. When this information data is associated continuously, the waiting for acquisition becomes still longer.
[0006] This invention aims at offering the display system which can display the acquisition situation of destination information data in the multiplex-broadcasting system which is made in view of the above-mentioned problem, sorts out a lot of received information data according to the contents of information, memorizes, and displays some memorized information data with an indicator.

MEANS

[Means for Solving the Problem] This invention is made in order to attain the above-mentioned purpose. In the information data display approach in the multiplex-broadcasting system of this invention, some information data which sorted out a lot of information data received in the multiplex-broadcasting system according to the contents of information, memorized them in memory, and memorized them in memory are displayed on a drop. When the destination of the information data related in this display is shown, the acquisition situation of the information data of that destination is searched, and an acquisition situation is put up for a display.

[0008] It can decide whether then, see the acquisition situation of the information data and transmit by this, when it is going to transmit to the transfer place information data of the displayed request while displaying information data. If it turns out that all information data are acquisition ending and will transmit to the destination, the display of the information data will be obtained immediately. Moreover, if it does not acquire, what it waits or is transmitted to the information data can be canceled, and can be switched to transfer to other information data until it is acquired.

[0009] Moreover, in case an acquisition situation is searched, an acquisition situation can be distinguished gradually and an acquisition situation can be displayed gradually. The latency time until it approaches desired information data will be known by this, and it can decide easily whether wait to transmit to the information data, or transmit to other information data. Furthermore, the display of an acquisition situation can be identified by the color according to an acquisition situation, and a drop can be notified.

[0010]

[Embodiment of the Invention] The example which applied this invention to the DARC method FM multiplex broadcast is explained. Drawing 1 shows the example of a configuration of the information data in a DARC method FM multiplex broadcast. In drawing, it is square, and what was expressed expresses the information data for 1 page, and is dealt with as one lump's information data. A program 1 is a main menu which shows the menu of all broadcasts, and consists of 1-page information data. Moreover, this program 1 is related with the program 2 combined by the drawing top line, a program 5, and a program 6. A program 2 is a program menu in which it is related with a program 3 and a program 4, and the title of a program 3 and a program 4 is shown collectively. This also consists of 1-page information data.

[0011] A program 3 - a program 6 are information data which consist of two or more pages, respectively, a program 3 and a program 4 are related with a program 2, and the program 5 and the program 6 are related with the program 1. These information data transmit all information data serially according to a certain fixed regulation, when transmitted in a broadcast system. According to this fixed regulation, regardless of the configuration of the information data shown in drawing 1 , each page is transmitted in scattering sequence.

[0012] The hard configuration of the receiver of a multiplex-broadcasting system is shown in drawing 2 and drawing 3 . A receiver consists of a receive section 10, the database memory 20, a switch control unit 30, a display 40, and CPU50. The packet data serially sent one by one from a receive section 10 are analyzed for every group in the packet bond part 51, and packet association, CRC count, and a data group draw are performed. Status information is stored in memory 52 after these processings, in a data base manager 53, processing explained below is carried out and information data are stored in the database memory 20.

[0013] The configuration of the database memory 20 is shown in drawing 4 . Information data are divided and stored in a managed table and the live-data section. A program header and page information are stored in a managed table in order for every program. As a program header is shown in the right-hand side of drawing, good [of refer to the data], a failure, the page total of the program concerned, and the offer time of day (the time and part) of the program concerned are stored. Although it is information data (data group data) by which a group division is carried out and was stored in the program concerned at the live-data section, the address is stored in page information as block No. This block No is set to FFFF16 when there

[0014] The live data of the information data are stored in the live-data section. The contents of data and selection-control data are contained in these live data. Moreover, the address with which live data were stored is recorded on the above-mentioned managed table as page information. As already explained, it takes time amount that all of that the information data acquired in a receiving side in a multiplex-broadcasting system are abundant and the information data shown in drawing 4 regardless of the acquisition rate of information data since the error correction of the acquired information data etc. needed to be performed are stored in the database memory 20.
[0015] If actuation is carried out to drawing 2 and drawing 3 by return and the switch control unit 30, the information data stored in the database memory 20 will be read one by one, it will let the indicative-data conversion control section 57 pass, and an indication will be given to a display 40 by the selection-control section 54, the page control section 55, and the data-access-management section 56. In addition, since these processings are the same as that of the conventional technique, explanation here is omitted.
[0016] The example of the menu screen displayed on drawing 5 by the display 40 is shown. (a) is Kiss-FM. The example of a screen display and (b) are the examples of a screen display of NHK-FM. In each menu screen, the title of the information data of a destination (transfer place) is displayed. In this example, the data acquisition situation of the information data of a destination is identified in the background color of the title of information data in this menu screen. For example, Kiss-FM of (a) It sets, and "1. news" does not have a receiving page and a background color is expressed with red. Some pages are acquisition ending and, as for "2. road traffic information", a background color is expressed with yellow. Moreover, in NHK-FM of (b), 4. 3. "1. news", "earthquake information", and "tsunami information" do not have a receiving page, and a background color is expressed with red. Some pages are acquisition ending and, as for "2. weather intelligence", a background color is expressed with yellow. All pages are acquired, and "5. the Olympic Games information of a background color" is blue, and is expressed.
[0017] The processing for displaying the acquisition situation shown in drawing 5 is explained using the flow chart of drawing 6 - drawing 8 . These processings are performed by drawing 2 and the indicative-data conversion control section 57 of drawing 3 . The flow chart of drawing 6 shows the processing which searches the acquisition situation of each information data.
[0018] `Un-searching' is set to a register `an acquisition situation' at step S11. It is judged whether `selection-control data' are in the information data currently displayed at step S12. The live-data section (refer to drawing 4) of the information data with which this is displayed is investigated, and it is judged whether the information data is a menu. Here, if it is Yes, it will be judged at step S13 whether a transfer place is in selection-control data. Here, if there is a transfer place, it will progress to step S14. If it is No at step S12 and step S13, processing will be ended without performing processing of acquisition situation retrieval. In this case, an acquisition situation is still `un-searching'.
[0019] At step S14, about the information data of a transfer place, the page total (refer to drawing 4) of a program header is read, and the block count stored with the existence of the page information stored in the live-data section from page information (refer to drawing 4) is read. When there is no page, FFFF16 is read, and when there is a page, the block count is read in 0-39910.
[0020] At step S15, it is judged whether a page total and the block count are equal. It is here, and if equal, since all the information data of a transfer place are stored in the database memory 20, it will be step S16 and `all data acquisition' will be set to a register `an acquisition situation'. When not equal, it progresses to step S17. At step S17, it is judged whether the block count investigated at step S14 is 0. if it is Yes, since, as for the information data of a transfer place, only the part is stored in the database memory 20 here — step S18 — it is — a register `an acquisition situation' — ` — a part — acquisition ' is set. If it is No, it will progress to step S19 and `un-acquiring' will be set to a register `an acquisition situation'.
[0021] S14-S19 are repeated about all the information data of a transfer place among the above steps. Drawing 7 and drawing 8 are flow charts which show the processing which changes the display of a screen according to the acquisition situation of each searched transfer place. In order to make an understanding of the contents of processing of a flow chart easy here, it explains referring to the example of a configuration of the display information data of drawing 9 . This example shows the display information data of Kiss-FM shown in drawing 5 (a). In addition, in drawing, APB means retreat and SP means a tooth space (null).
[0022] It is confirmed the register `an acquisition situation' `has been searched' with step S31. Here, if it is No (un-searching), at step S32, a background color will be set to "white" and will end processing. If it is Yes (finishing [retrieval]), it will progress to step S33. The format which becomes `figure' `APB' ` figure ' from these initial data of display information data is searched with step S33, and the 1st `figure' data is set as a head pointer at step S34 (a of drawing 9).
[0023] At step S35, the acquisition situation of the transfer place corresponding to the above `a figure' is called. At step S36, it is confirmed whether acquisition situations are `all data acquisition'. Here, if it is Yes

a background color will be set as `blue' at step S37. if it is No -- step S38 -- an acquisition situation -- ` -- it is confirmed whether be acquisition ' a part. Here, if it is Yes, a background color will be set as `yellow' at step S39, and if it is No, a background color will be set as `red' at step S40.

[0024] Subsequently, the format which becomes `figure' `APB' ` figure ' from the location of the 2nd figure as follows is searched with step S41. At step S42, the data (c of drawing 9 ) in front of the 1st `figure' (d of drawing 9) after retrieval are set as the last pointer. At step S43, a head pointer is set as a termination pointer. Thereby, a termination pointer is set to a of drawing 9 .

[0025] At step S44, information data are analyzed from a head pointer (a of drawing 9). At step S45, it confirms whether information data are `SP' or `APB' as a result of analysis, if it is No, a retrieval location will be set as a termination pointer at step S46, and it will progress to step S47, and if it is Yes, it will progress to the direct step S47. At step S47, a retrieval location is set as a degree and it is checked for a retrieval location the last pointer (c of drawing 9) by step S48. If it is No, the above-mentioned processing will be repeated even to return and the last pointer to step S45. When it comes to Yes, it progresses to step S49. In this condition, the termination pointer is b of drawing 9 .

[0026] At step S49, the background color of the information data from a head pointer location to a termination pointer is set as the background color set up by step S37-40. It is confirmed whether all information data were searched with step S50. If it is No here, at step S51, it will be set as a head pointer in the next location (d of drawing 9) of the last pointer, and will return to step S35.

[0027] Henceforth, same processing is performed and a setup of the background color about `road traffic information' is performed. Thereby, in the example of drawing 9 , a head pointer and f are set to the last pointer, and e is set to a termination pointer for d. After retrieval is completed about all information data, it escapes from Yes of step S50, and processing is ended. By processing explained above, as shown in drawing 5 (a), the background color of the information data of a transfer place is decided, and an operator gets to know the acquisition situation of a transfer place in this background color, and makes it reference of selection of a transfer place. For example, if transfer places are all data acquisition ending, it turns out that it can fly to a transfer place immediately. If a part or all is not acquired, it can judge whether it waits until it acquires completely, or it transmits to other information data.

[0028] Although the acquisition situation of a transfer place is identified in a background color and displayed in the example explained above, the other methods of presentation are also possible. for example, all `acquisition''s -- a part -- acquisition ' `un-acquiring' -- as -- it can display in written form or can express as other notations.

[Translation done.]

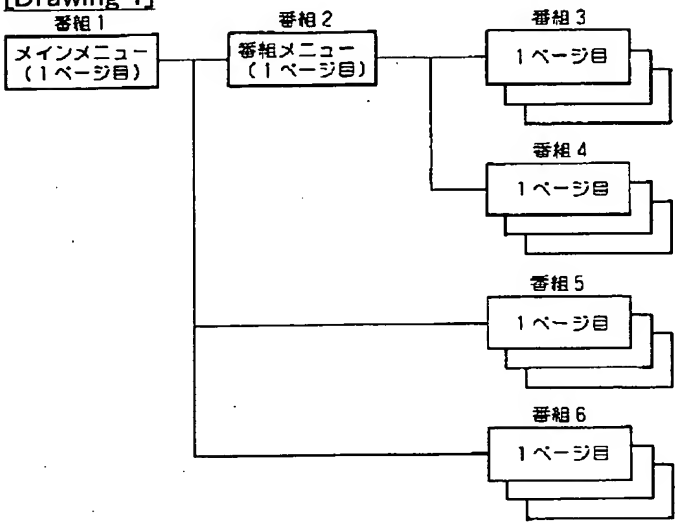
DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]
[Drawing 1] Drawing showing the example of a configuration of the information data in the operation gestalt of this invention.
[Drawing 2] Drawing showing the hard configuration of a receiver in the operation gestalt of this invention (the 1).
[Drawing 3] Drawing showing the hard configuration of a receiver in the operation gestalt of this invention (the 2).
[Drawing 4] Drawing 2 , drawing showing the configuration of the memory of drawing 3 .
[Drawing 5] Drawing 2 , drawing showing the example of the menu screen displayed on the display of drawing 3 .
[Drawing 6] The flow chart which shows the processing which searches the acquisition situation of the information data in the receiver of drawing 2 and drawing 3 .
[Drawing 7] The flow chart which shows the processing which changes the display of a screen according to the acquisition situation in the receiver of drawing 2 and drawing 3 (the 1).
[Drawing 8] The flow chart which shows the processing which changes the display of a screen according to the acquisition situation in the receiver of drawing 2 and drawing 3 (the 2).
[Drawing 9] Drawing showing the example of a configuration of the information data processed by drawing 7 and drawing 8 .
[Description of Notations]
10 — Receive section
20 — Database memory
30 — Switch control unit
40 — Display
50 — CPU
53 — Data base manager
57 — Indicative-data conversion control section

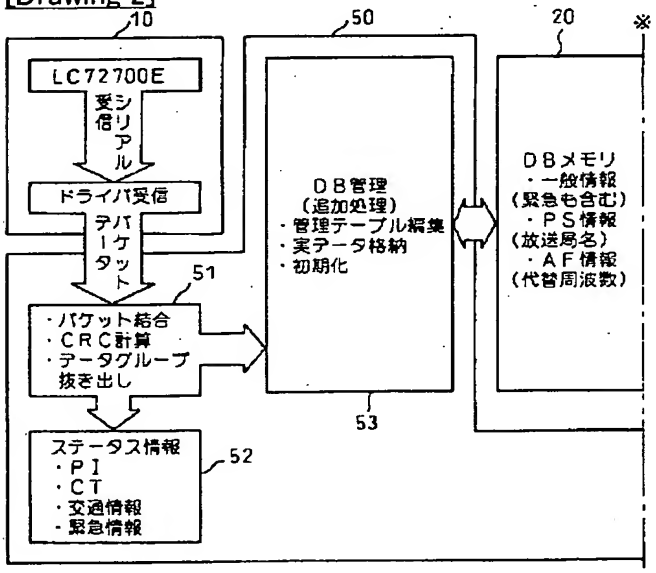
[Translation done.]

DRAWINGS

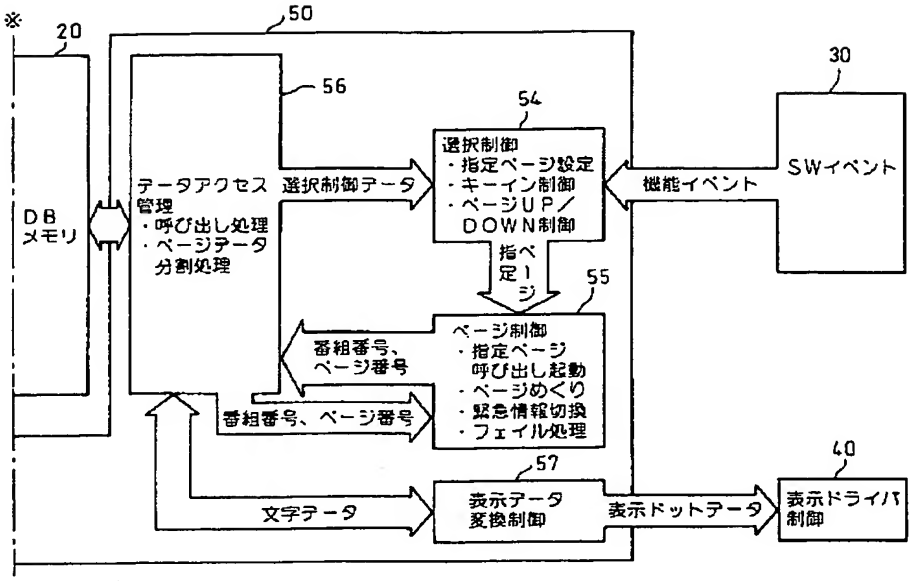
[Drawing 1]



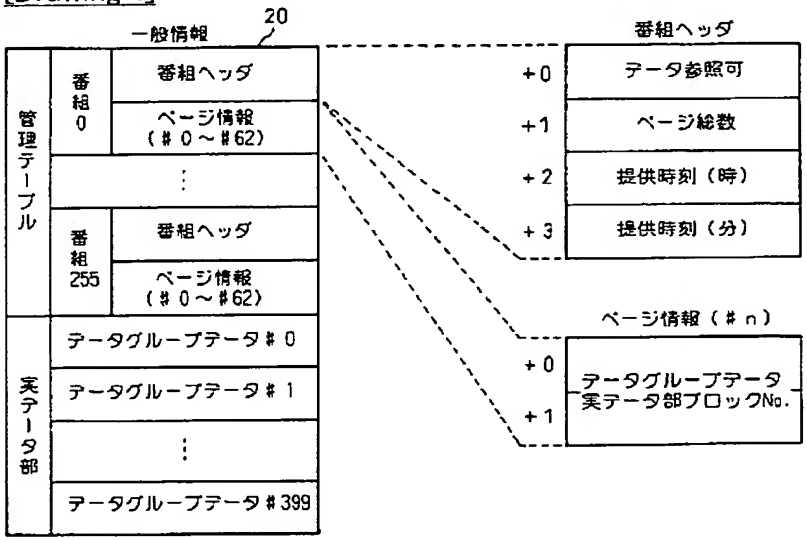
[Drawing 2]



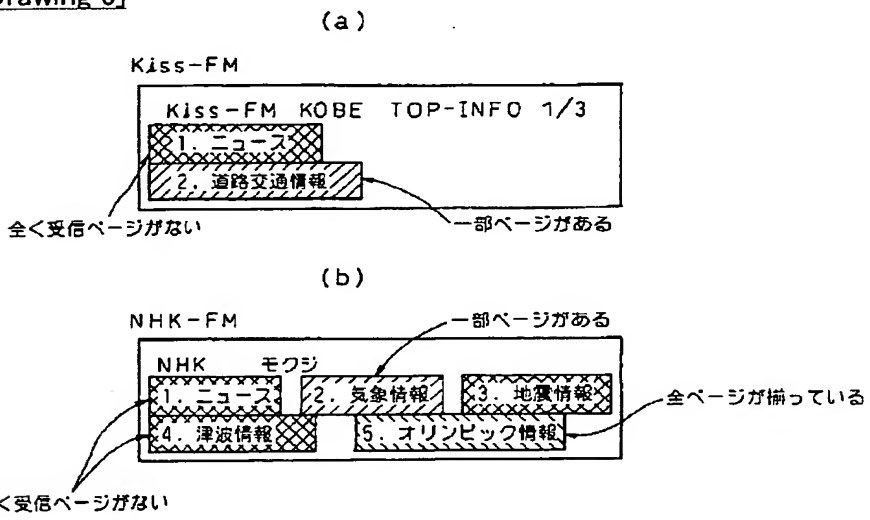
[Drawing 3]



[Drawing 4]

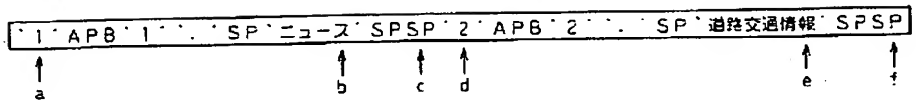


[Drawing 5]



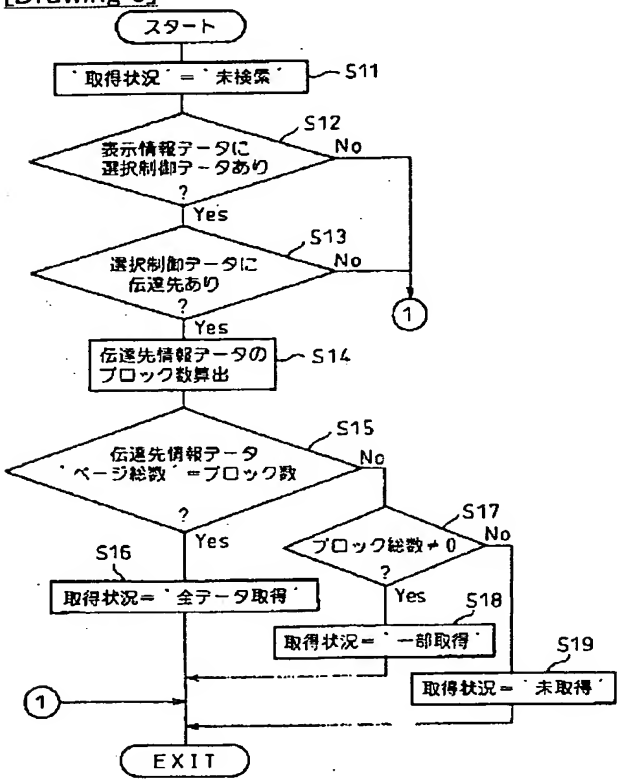
[Drawing 9]

表示情報データの構成

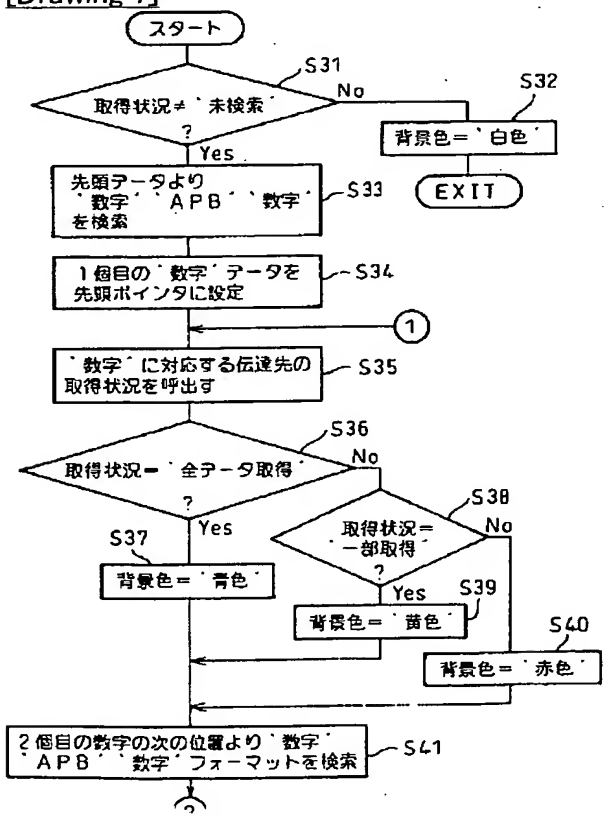


※APB＝後退
SP＝スペース（空白）

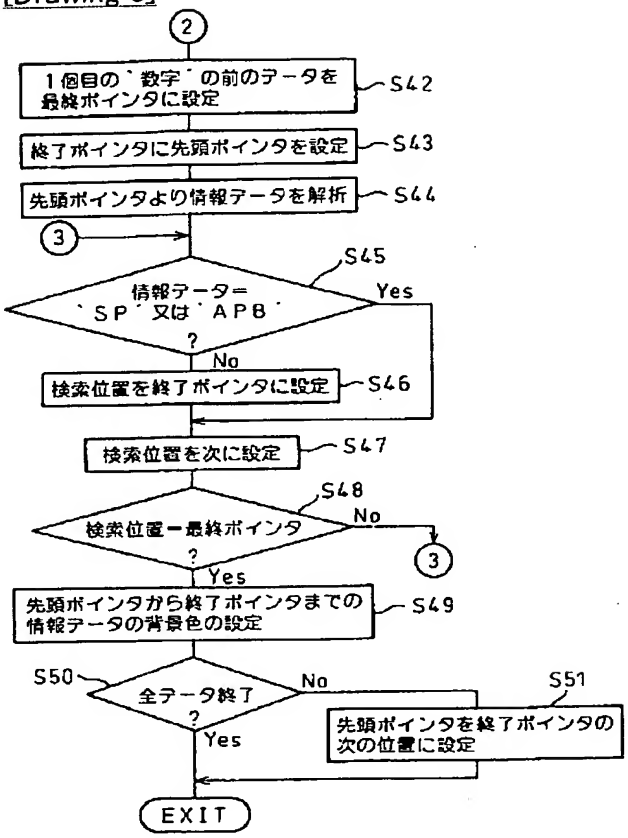
[Drawing 6]



[Drawing 7]



[Drawing 8]



[Translation done.]

CORRECTION OR AMENDMENT

[Kind of official gazette] Printing of amendment by the convention of 2 of Article 17 of Patent Law
[Section partition] The 3rd partition of the 7th section
[Publication date] November 4, Heisei 16 (2004. 11.4)

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[Application number] Japanese Patent Application No. 9-11717
[The 7th edition of International Patent Classification]

H04B 1/16
H04H 1/00

[FI]

H04B 1/16 C
H04B 1/16 G
H04H 1/00 E
H04H 1/00 C

[Procedure revision]
[Filing Date] November 5, Heisei 15 (2003. 11.5)
[Procedure amendment 1]
[Document to be Amended] Specification
[Item(s) to be Amended] The name of invention
[Method of Amendment] Modification
[The contents of amendment]
[Title of the Invention] The information data display system in a broadcast system
[Procedure amendment 2]
[Document to be Amended] Specification
[Item(s) to be Amended] Claim
[Method of Amendment] Modification
[The contents of amendment]
[Claim(s)]
[Claim 1]
In the information data display system in which the information data related by displaying on an indicator some information data which sorted out a lot of information data received in the broadcast system by which information data are sent with broadcast data according to the contents of information, memorized them in memory, and memorized them in said memory are shown as a destination,
A means to search the acquisition situation of the information data shown as said destination,
A means to put up the searched acquisition situation concerned for said display
The information data display system characterized by providing.
[Claim 2]
The retrieval means of said acquisition situation is an information data display system according to claim 1 which distinguishes an acquisition situation gradually.
[Claim 3]
The information data display system according to claim 1 which a means to put up said acquisition situation identifies an acquisition situation by the color, and puts up.

In the information data display system which can display the information page relevant to the title which acquired the information data sent, and was chosen [which were chosen and was title-displayed] with broadcast data,
The information data display system characterized by having a display means to display this title for the acquisition situation of the information page relevant to said title identifiable.
[Procedure amendment 3]
[Document to be Amended] Specification
[Item(s) to be Amended] 0001
[Method of Amendment] Modification
[The contents of amendment]
[0001]
[Field of the Invention]
This invention relates to the display system of information data [in / a DARC method FM multiplex broadcast] about the system which displays with a drop some information data which sorted out and memorized a lot of information data received in the broadcast system by which information data are sent with broadcast data according to the contents of information, and were memorized in memory.
[Procedure amendment 4]
[Document to be Amended] Specification
[Item(s) to be Amended] 0006
[Method of Amendment] Modification
[The contents of amendment]
[0006]
This invention aims at offering the display system which can display the acquisition situation of destination information data in the broadcast system which is made in view of the above-mentioned problem, sorts out a lot of received information data according to the contents of information, memorizes, and displays some memorized information data with an indicator.
[Procedure amendment 5]
[Document to be Amended] Specification
[Item(s) to be Amended] 0007
[Method of Amendment] Modification
[The contents of amendment]
[0007]
[Means for Solving the Problem]
This invention is made in order to attain the above-mentioned purpose. When the destination of the information data related by displaying on an indicator some information data which sorted out a lot of information data received in this invention in the broadcast system by which information data are sent with broadcast data according to the contents of information, memorized them in memory, and memorized them in memory is shown, the acquisition situation of the information data of the destination searches, and an acquisition situation puts up for a display.

[Translation done.]